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PERMITTING & COMPLIANCE DIV.
Montana Department of
ENVIRONMENTAL QUALITY

WATER PROTECTION BUREAU

Agency Use

Permit No.:
MT 010239

Date Rec'd

Rec'd By

FORM
NMP**Nutrient Management Plan**

READ THIS BEFORE COMPLETING FORM: Before completing this form (Form NMP), Concentrated Animal Feeding Operation (CAFO) operators need to read the General Permit, particularly Part IV.A. CAFO operators also need to read the "Instructions For Filling Out Form NMP," found at the back of the Form. Form NMP is intended to help CAFO operators develop a site-specific Nutrient Management Plan, in compliance with Part IV.A of the General Permit and all applicable State rules and statutes. Your Nutrient Management Plan must be maintained at the site as required in Part III of the General Permit. Sections B and C on your Form NMP must state the information exactly the same way as it was stated on the most recently submitted version of your Form 2B. Attach additional pages as necessary, indicating the corresponding section number on this NMP form. For additional help in filling out this form please read the attached instructions. The 2008 General Permit, current fee schedule, and related forms are available from the Water Protection Bureau at (406) 444-3080 or <http://www.deq.mt.gov/wqinfo/MPDES/CAFO.asp>

Section A - NMP Status (Check one):

- ☒ New No prior NMP submitted for this site.
☐ Modification Change or update to existing NMP.

Permit Number: MT 010239 (Specify the permit number that was previously assigned to your facility.)

Section B - Facility or Site Information:

Site Name Bice Ranch LLC

Site Location Approximately 40 miles South of Miles City Montana on Tongue River Road

Nearest City or Town Miles City County Custer

Section C - Applicant (Owner/Operator) Information:

Owner or Operator Name Bice Ranch LLC

Mailing Address 145 Road 611

City, State, and Zip Code Miles City, Montana 59301

Phone Number 406-421-5555

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Section D - NMP Minimum Elements:**1. Livestock Statistics**

<i>Animal Type and number of animals</i>	<i># of Days on Site (per year)</i>	<i>Annual Manure Production (tons, cu. yds. or gal)</i>
1. Beef Stocker Cattle 4000 head	150	2937 tons
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Method used for estimating annual manure production:

Manure Management Planner, Version 0.30, copyright Purdue Research Foundation

Calculations performed by USDA-NRCS, Miles City Field Office

2. Manure Handling

Describe manure handling at the facility:

Manure is left in pens, scraped and spread on fields annually. Manure is not piled or stored for any length of time. Manure is spread onto fields and incorporated within 1 day of pen scraping

Frequency of Manure Removal from confinement areas:

Annually normally in fall

Is this manure temporarily stored in any location other than the confinement area? ☐ Yes ☒ No
If so then how and where?

Is manure stored on impervious surface? ☐ Yes ☒ No

If yes, describe type and characteristics of this surface:

3. Waste Control Structures

<i>Waste Control Structure (name/type)</i>	<i>Length (ft)</i>	<i>Width (ft)</i>	<i>Depth (ft)</i>	<i>Volume (cubic ft or gallons)</i>
1. Clean Water Diversion Dike	9421			
2. Temporary Storage Pit				1.313 million gallons
3. Effluent Pump				456 gpm
4. Effluent Transfer Pipeline	1494			6 inch PVC buried
5. Vegetative Treatment Area				12.5 acres
6. Gated Pipe for Effluent	564			6 inch gated pipe
7. Wastewater Diversion Dike	1786			
8. Flood Control Dike	2863			
9. Fence	2796			
10.				
11.				
12.				

4. Disposal of Dead Animals

Describe how dead animals are disposed of at this facility:

Dead animals are buried in an area above the feedlot in heavy clay soils and are covered with dirt.

5. Clean Water Diversion Practices

Describe how clean water is diverted from production area:

Clean water is diverted around the Feedlot by dikes designed by NRCS. Please refer to NRCS design

6. Prohibiting Animals and Wastes from Contact with State Waters

Describe how animals and wastes are prohibited from direct contact with state waters:

Animals are fenced away from State Waters. Wastes are diverted into a holding pond that is pumped to a Vegetative Treatment Strip for proper disposal. Vegetative Treatment Strips are fenced to keep livestock out.

Describe how chemicals and other contaminants are handled on-site:

There are no other chemicals or contaminants on site

8. Best Management Practice (BMPS)

Describe in detail all temporary, permanent and structural Best Management Practices (BMPs) which will be used to control runoff of pollutants from facility's **production area**. Indicate the location of these measures. Include a schedule for implementation of each of these measures. Examples of BMP measures could include but are not limited to: constructing ditches, terraces, and waterways above an open lot to divert clean water run on; installing gutters, downspouts and buried conduits to divert roof drainage; providing more roofed area; decreasing open lot surface area; repairing or adjusting water systems to minimize water wastage; using practical amounts of water for cooling purposes; recycling water if practical and applicable.

Refer to NRCS design for all structural Best Management Practices.

Describe in detail all temporary, permanent and structural Best Management Practices (BMPs) which will be used to control run-off of pollutants from facility's **land application area**. Indicate the location of these practices. If not already in use, include a schedule for implementation of each of these measures. Attached details and specifications may be used to supplement this description. Examples of BMP measures could include but are not limited to: maintaining setbacks from surface waters for manure applications; managing irrigation practices to prevent ponding of wastewater on land application sites; never spray irrigating wastes onto frozen ground; consulting with the Department prior to applying any liquid waste to frozen or snow-covered ground; applying wastes at agronomic rates.

Plant sampling/tissue analysis	yes/no <input checked="" type="checkbox"/>	Rotational grazing	yes/no <input checked="" type="checkbox"/>
Conservation or reduced tillage	yes/no <input checked="" type="checkbox"/>	Manure injection or incorporation	<input checked="" type="checkbox"/> yes/no
Terraces or other water control structures	yes/no <input checked="" type="checkbox"/>	Contour plantings	yes/no <input checked="" type="checkbox"/>
Riparian buffers or vegetative filter strips	<input checked="" type="checkbox"/> yes/no	Winter "scavenger" or cover crops	yes/no <input checked="" type="checkbox"/>

Other examples Sprinkler irrigation with an approved Irrigation Water Management Plan
developed by the NRCS

9. Implementation, Operation, Maintenance and Record Keeping – Guidance

The permittee is required to develop guidance addressing implementation of NMP, proper operation and maintenance of the facility, and record keeping as described in Part II of the permit.

Has a guidance document been developed for the facility? ☒ Yes No

Certify the document addresses the following requirements:

Implementation of the NMP:	<input checked="" type="checkbox"/> Yes	No
Facility operation and maintenance:	<input checked="" type="checkbox"/> Yes	No
Record keeping and reporting:	<input checked="" type="checkbox"/> Yes	No
Sample collection and analysis:	<input checked="" type="checkbox"/> Yes	No
Manure transfer:	<input checked="" type="checkbox"/> Yes	No

Provide name, date and location of most recent documentation:

If your answer to any of the above question is no, provide explanation

Section E – Land Application

Will manure be land applied to land either owned, rented, or leased by the owner or operator of the facility?

No If no, then provide an explanation of how animal waste at this site are managed.

■ Yes If yes, then the information requested in Section E must be provided.

Photos and/or Maps

Attach an aerial photograph or map of the site where manure is to be applied. (Use multiple photos/maps if necessary to show required details.) The photo(s)/map(s) must be printed on no larger than an 11"x17" piece of paper, and must clearly identify the following items:

- Individual field boundaries for all planned land application areas
- A name, number, letter or other means of identifying each individual land application field
- The location of any down-gradient surface waters
- The location of any down-gradient open tile line intake structures
- The location of any down-gradient sinkholes
- The location of any down-gradient agricultural well heads
- The location of all conduits to surface waters
- The specific manure/waste handling or nutrient management restrictions associated with each land application field.
- The soil type(s) present and their locations within the individual land application field(s)
- The location of buffers and setbacks around state surface waters, well heads, etc.

Land Application Equipment Calibration

Describe the type of equipment used to land apply wastes and the calibrating procedures:

Manure is applied with a dry waste spreader. Tare weight of manure is documented. Once manure is applied, field area is measured and a tons/acre value is obtained

Manure Sampling and Analysis Procedures

A representative manure sample will be analyzed a minimum of once annually for Total Nitrogen, and Total Phosphorus. Analysis results will be reported in lbs/ton or lbs/1,000 gal. Results of these analyses will be used in determining application rates for manure, litter, and process wastewater.

Manure Sample collection will occur according to the following method:

■ The recommended method(s) found in Section 5 of Department Circular DEQ 9

Other (describe) _____

Soil Sampling and Analysis Procedures

A representative soil sample from the top 6 inch layer of soil in each field will be analyzed for phosphorus content at least once every five years. Analyses will be conducted by a qualified laboratory, using the Olsen P test. Results will be reported in parts per million (ppm) and will be used in determining application rates for manure, litter, and process wastewater.

Soil sample collection will occur according to the following method:

■ The recommended method(s) found in Section 5 of Department Circular DEQ 9

Other (describe) _____

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure			
Field Name and <u>spreadable acres</u> for each (for fields with identical crops and soils type):			
Field Name	Pivot #1	Spreadable acres	37.5
Crop 1 (year 1 or ?) plant species		Alfalfa	
Irrigated (Y/N)		yes	
Yield Goal (ton/ac or bushel/ac)		6 ton	
N Content of soil as nitrate (lbs/acre or ppm)		105 lbs.	
P Content of soil as P2O5 (lbs/acre or ppm)		8 ppm	
Time of Year When Application will Occur (month)		Late March	
Application frequency (per year by month)		once per year	
Form of manure (liquid/solid)		solid	
Method of Application		dry spreader	
Is manure incorporated or broadcast?		harrowed after broadcast	
Frequency of Application (yearly, biannual, etc.?)		once every four years	
Crop 2			
Irrigated (Y/N)			
Yield Goal (ton/ac or bushel/ac)			
N Content of soil as nitrate (lbs/acre or ppm)			
P Content of soil as P2O5 (lbs/acre or ppm)			
Time of Year When Application will Occur (month)			
Application frequency (per year by month)			
Form of manure (liquid/solid)			
Method of Application			
Is manure incorporated or broadcast?			
Frequency of Application (yearly, biannual, etc.?)			

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure			
Field Name and <u>spreadable acres</u> for each (for fields with identical crops and soils type):			
Field Name	Pivot #2	Spreadable acres	28.3
Crop 1 (year 1 or ?) plant species			Alfalfa
Irrigated (Y/N)			yes
Yield Goal (ton/ac or bushel/ac)			6 ton
N Content of soil as nitrate (lbs/acre or ppm)			51 lbs.
P Content of soil as P2O5 (lbs/acre or ppm)			10 ppm
Time of Year When Application will Occur (month)			Late March
Application frequency (per year by month)			once per year
Form of manure (liquid/solid)			solid
Method of Application			dry spreader
Is manure incorporated or broadcast?			harrowed after broadcast
Frequency of Application (yearly, biannual, etc.?)			once every four years
Crop 2			
Irrigated (Y/N)			
Yield Goal (ton/ac or bushel/ac)			
N Content of soil as nitrate (lbs/acre or ppm)			
P Content of soil as P2O5 (lbs/acre or ppm)			
Time of Year When Application will Occur (month)			
Application frequency (per year by month)			
Form of manure (liquid/solid)			
Method of Application			
Is manure incorporated or broadcast?			
Frequency of Application (yearly, biannual, etc.?)			

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure	
Field Name and <u>spreadable acres</u> for each (for fields with identical crops and soils type):	
Field Name	Pivot #3 Spreadable acres 313.9
Crop 1 (year 1 or ?) plant species	Corn
Irrigated (Y/N)	yes
Yield Goal (ton/ac or bushel/ac)	150 bushel
N Content of soil as nitrate (lbs/acre or ppm)	96 lbs.
P Content of soil as P2O5 (lbs/acre or ppm)	7 ppm
Time of Year When Application will Occur (month)	August or September
Application frequency (per year by month)	once per year
Form of manure (liquid/solid)	solid
Method of Application	dry spreader
Is manure incorporated or broadcast?	incorporated after broadcast
Frequency of Application (yearly, biannual, etc.?)	once every four years
Crop 2	
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	
N Content of soil as nitrate (lbs/acre or ppm)	
P Content of soil as P2O5 (lbs/acre or ppm)	
Time of Year When Application will Occur (month)	
Application frequency (per year by month)	
Form of manure (liquid/solid)	
Method of Application	
Is manure incorporated or broadcast?	
Frequency of Application (yearly, biannual, etc.?)	

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure	
Field Name and spreadable acres for each (for fields with identical crops and soils type):	
Field Name	Pivot #4 Spreadable acres 140.1
Crop 1 (year 1 or ?) plant species	Corn
Irrigated (Y/N)	yes
Yield Goal (ton/ac or bushel/ac)	150 bushel
N Content of soil as nitrate (lbs/acre or ppm)	81 lbs.
P Content of soil as P2O5 (lbs/acre or ppm)	7 ppm
Time of Year When Application will Occur (month)	September
Application frequency (per year by month)	once per year
Form of manure (liquid/solid)	solid
Method of Application	dry spreader
Is manure incorporated or broadcast?	incorporated after broadcast
Frequency of Application (yearly, biannual, etc.?)	once every four years
Crop 2	
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	
N Content of soil as nitrate (lbs/acre or ppm)	
P Content of soil as P2O5 (lbs/acre or ppm)	
Time of Year When Application will Occur (month)	
Application frequency (per year by month)	
Form of manure (liquid/solid)	
Method of Application	
Is manure incorporated or broadcast?	
Frequency of Application (yearly, biannual, etc.?)	

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure	
Field Name and spreadable acres for each (for fields with identical crops and soils type):	
Field Name	Pivot #5 Spreadable acres 20.1
Crop 1 (year 1 or ?) plant species	Corn
Irrigated (Y/N)	yes
Yield Goal (ton/ac or bushel/ac)	150 bushel
N Content of soil as nitrate (lbs/acre or ppm)	63 lbs.
P Content of soil as P2O5 (lbs/acre or ppm)	19 ppm
Time of Year When Application will Occur (month)	September
Application frequency (per year by month)	once per year
Form of manure (liquid/solid)	solid
Method of Application	dry spreader
Is manure incorporated or broadcast?	incorporated after broadcast
Frequency of Application (yearly, biannual, etc.?)	once every four years
Crop 2	
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	
N Content of soil as nitrate (lbs/acre or ppm)	
P Content of soil as P2O5 (lbs/acre or ppm)	
Time of Year When Application will Occur (month)	
Application frequency (per year by month)	
Form of manure (liquid/solid)	
Method of Application	
Is manure incorporated or broadcast?	
Frequency of Application (yearly, biannual, etc.?)	

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure			
Field Name and <u>spreadable acres</u> for each (for fields with identical crops and soils type):			
Field Name	Pivot #6	Spreadable acres	42.3
Crop 1 (year 1 or ?) plant species		Corn	
Irrigated (Y/N)		yes	
Yield Goal (ton/ac or bushel/ac)		150 bushel	
N Content of soil as nitrate (lbs/acre or ppm)		103 lbs.	
P Content of soil as P2O5 (lbs/acre or ppm)		21 ppm	
Time of Year When Application will Occur (month)		September	
Application frequency (per year by month)		once per year	
Form of manure (liquid/solid)		solid	
Method of Application		dry spreader	
Is manure incorporated or broadcast?		incorporated after broadcast	
Frequency of Application (yearly, biannual, etc.?)		once every four years	
Crop 2			
Irrigated (Y/N)			
Yield Goal (ton/ac or bushel/ac)			
N Content of soil as nitrate (lbs/acre or ppm)			
P Content of soil as P2O5 (lbs/acre or ppm)			
Time of Year When Application will Occur (month)			
Application frequency (per year by month)			
Form of manure (liquid/solid)			
Method of Application			
Is manure incorporated or broadcast?			
Frequency of Application (yearly, biannual, etc.?)			

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure	
Field Name and spreadable acres for each (for fields with identical crops and soils type):	
Field Name	Pivot #7 Spreadable acres 11
Crop 1 (year 1 or ?) plant species	Alfalfa
Irrigated (Y/N)	yes
Yield Goal (ton/ac or bushel/ac)	6 ton
N Content of soil as nitrate (lbs/acre or ppm)	83 lbs.
P Content of soil as P2O5 (lbs/acre or ppm)	8 ppm
Time of Year When Application will Occur (month)	Late March
Application frequency (per year by month)	once per year
Form of manure (liquid/solid)	solid
Method of Application	dry spreader
Is manure incorporated or broadcast?	harrowed after broadcast
Frequency of Application (yearly, biannual, etc.?)	once every four years
Crop 2	
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	
N Content of soil as nitrate (lbs/acre or ppm)	
P Content of soil as P2O5 (lbs/acre or ppm)	
Time of Year When Application will Occur (month)	
Application frequency (per year by month)	
Form of manure (liquid/solid)	
Method of Application	
Is manure incorporated or broadcast?	
Frequency of Application (yearly, biannual, etc.?)	

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure	
Field Name and <u>spreadable acres</u> for each (for fields with identical crops and soils type):	
Field Name	Pivot #8 ea Spreadable acres
	42.3
Crop 1 (year 1 or ?) plant species	Corn
Irrigated (Y/N)	yes
Yield Goal (ton/ac or bushel/ac)	150 bushel
N Content of soil as nitrate (lbs/acre or ppm)	36 lbs.
P Content of soil as P2O5 (lbs/acre or ppm)	17 ppm
Time of Year When Application will Occur (month)	September
Application frequency (per year by month)	once per year
Form of manure (liquid/solid)	solid
Method of Application	dry spreader
Is manure incorporated or broadcast?	incorporated after broadcast
Frequency of Application (yearly, biannual, etc.?)	once every four years
Crop 2	
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	
N Content of soil as nitrate (lbs/acre or ppm)	
P Content of soil as P2O5 (lbs/acre or ppm)	
Time of Year When Application will Occur (month)	
Application frequency (per year by month)	
Form of manure (liquid/solid)	
Method of Application	
Is manure incorporated or broadcast?	
Frequency of Application (yearly, biannual, etc.?)	

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure	
Field Name and spreadable acres for each (for fields with identical crops and soils type):	
Field Name	Pivot #8, W1/2 Spreadable acres 150.3
Crop 1 (year 1 or ?) plant species	Alfalfa
Irrigated (Y/N)	yes
Yield Goal (ton/ac or bushel/ac)	6 ton
N Content of soil as nitrate (lbs/acre or ppm)	84 lbs.
P Content of soil as P2O5 (lbs/acre or ppm)	15 ppm
Time of Year When Application will Occur (month)	Late March
Application frequency (per year by month)	once per year
Form of manure (liquid/solid)	solid
Method of Application	dry spreader
Is manure incorporated or broadcast?	harrowed after broadcast
Frequency of Application (yearly, biannual, etc.?)	once every four years
Crop 2	
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	
N Content of soil as nitrate (lbs/acre or ppm)	
P Content of soil as P2O5 (lbs/acre or ppm)	
Time of Year When Application will Occur (month)	
Application frequency (per year by month)	
Form of manure (liquid/solid)	
Method of Application	
Is manure incorporated or broadcast?	
Frequency of Application (yearly, biannual, etc.?)	

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure			
Field Name and <u>spreadable acres</u> for each (for fields with identical crops and soils type):			
Field Name	Pivot #9	Spreadable acres	62.5
Crop 1 (year 1 or ?) plant species		Corn	
Irrigated (Y/N)		yes	
Yield Goal (ton/ac or bushel/ac)		150 bushel	
N Content of soil as nitrate (lbs/acre or ppm)		19 lbs.	
P Content of soil as P2O5 (lbs/acre or ppm)		10 ppm	
Time of Year When Application will Occur (month)		September	
Application frequency (per year by month)		once per year	
Form of manure (liquid/solid)		solid	
Method of Application		dry spreader	
Is manure incorporated or broadcast?		incorporated after broadcast	
Frequency of Application (yearly, biannual, etc.?)		once every four years	
Crop 2			
Irrigated (Y/N)			
Yield Goal (ton/ac or bushel/ac)			
N Content of soil as nitrate (lbs/acre or ppm)			
P Content of soil as P2O5 (lbs/acre or ppm)			
Time of Year When Application will Occur (month)			
Application frequency (per year by month)			
Form of manure (liquid/solid)			
Method of Application			
Is manure incorporated or broadcast?			
Frequency of Application (yearly, biannual, etc.?)			

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure	
Field Name and <u>spreadable acres</u> for each (for fields with identical crops and soils type):	
Field Name	Pivot #10 Spreadable acres 48.3
Crop 1 (year 1 or ?) plant species	Corn
Irrigated (Y/N)	yes
Yield Goal (ton/ac or bushel/ac)	150 bushel
N Content of soil as nitrate (lbs/acre or ppm)	51 lbs.
P Content of soil as P2O5 (lbs/acre or ppm)	26 ppm
Time of Year When Application will Occur (month)	September
Application frequency (per year by month)	once per year
Form of manure (liquid/solid)	solid
Method of Application	dry spreader
Is manure incorporated or broadcast?	incorporated after broadcast
Frequency of Application (yearly, biannual, etc.?)	once every four years
Crop 2	
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	
N Content of soil as nitrate (lbs/acre or ppm)	
P Content of soil as P2O5 (lbs/acre or ppm)	
Time of Year When Application will Occur (month)	
Application frequency (per year by month)	
Form of manure (liquid/solid)	
Method of Application	
Is manure incorporated or broadcast?	
Frequency of Application (yearly, biannual, etc.?)	

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure	
Field Name and <u>spreadable acres</u> for each (for fields with identical crops and soils type):	
Field Name	Pivot #11 Spreadable acres 169.2
Crop 1 (year 1 or ?) plant species	Alfalfa
Irrigated (Y/N)	yes
Yield Goal (ton/ac or bushel/ac)	6 ton
N Content of soil as nitrate (lbs/acre or ppm)	39 lbs.
P Content of soil as P2O5 (lbs/acre or ppm)	8 ppm
Time of Year When Application will Occur (month)	Late March
Application frequency (per year by month)	once per year
Form of manure (liquid/solid)	solid
Method of Application	dry spreader
Is manure incorporated or broadcast?	harrowed after broadcast
Frequency of Application (yearly, biannual, etc.?)	once every four years
Crop 2	
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	
N Content of soil as nitrate (lbs/acre or ppm)	
P Content of soil as P2O5 (lbs/acre or ppm)	
Time of Year When Application will Occur (month)	
Application frequency (per year by month)	
Form of manure (liquid/solid)	
Method of Application	
Is manure incorporated or broadcast?	
Frequency of Application (yearly, biannual, etc.?)	

Phosphorus Risk Assessment

The permittee shall assess the risk of phosphorus contamination of state waters. An assessment shall be conducted for each field, under the control of the operator, to which manure, litter or process wastewater will or may be applied. If a new field is added in the future, then the permittee must submit a revised (modified) NMP. The permittee has the option of using either Method A or Method B (below) to complete the assessment. Copies of all tables and calculations used to complete the assessments, as well as the results of the assessments, shall be submitted to the Department and copies shall be maintained on-site at the facility and available for Departmental review. The results of the assessments shall be used to determine the appropriate basis for land application of wastes from the facility.

Method Used

Indicate which method will be used to determine phosphorus application:

Method A – Representative Soil Sample

Method B – Phosphorus Index

Method A – Representative Soil Sample

- Obtain one or more representative soil sample(s) from the field.
- Have the sample analyzed for Phosphorus by a qualified lab. The "Olsen P test" must be used for the analysis, and the result must be reported in parts per million (ppm).
- Using the results of the Olsen P test, determine the application basis according to the Table below

Soil Test	
<i>Olsen P Soil Test Result (ppm)</i>	<i>Application Basis</i>
<25.0	Nitrogen Needs Of Crop
25.1 - 100.0	Phosphorus Needs Of Crop
100.0 - 150.0	Phosphorus Needs up to Crop Removal Rate
>150.0	No Application

Method B – Phosphorus Index

- Complete a Phosphorus Index according to for each crop grown on each field. Complete table in Appendix A to calculate phosphorus index. For information on filling out specific sections Appendix A, please refer to Attachment 2 of Department Circular DEQ 9.
- Using the calculated Total Phosphorus Index Value, assign the overall site/field vulnerability to phosphorus loss according to the table below.

Total Phosphorus	
<i>Total Phosphorus Index Value</i>	<i>Site Vulnerability to Phosphorus Loss</i>
<11	Low
11-21	Medium
22-43	High
>43	Very High

- Using the calculated Site Vulnerability to Phosphorus Loss, determine the appropriate application basis according to the table below.

Site Vulnerability to Phosphorus Loss	
<i>Site Vulnerability to Phosphorus Loss</i>	<i>Application Basis</i>
Low	Nitrogen Needs
Medium	Nitrogen Needs
High	Phosphorus Need Up to Crop Removal
Very High	Phosphorus Crop Removal or No Application

d) The permittee will complete the Nutrient Budget Worksheet, below, for each crop grown on each field to which manure or process waste water is or may be applied during the first year of application. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

Nutrient Budget Worksheet

Year	Site/Field:	Pivot #1 Alfalfa			
Nutrient Budget		Nitrogen-based Application		Phosphorus-based Application	
NUTRIENTS		N	P	K	
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	30	75	145	
minus	Available nutrients from Soil Sample	105			
minus	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	0			
minus	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	0			
minus	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		145	
minus	Nutrients supplied in irrigation water, lbs/acre	0			
equals	Additional Nutrients Needed, lbs/acre	-75	75	0	0
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	38.8	26.8	1.8	
times	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.11	1.0	1.0	
equals	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	4.5	14.6	1.8	0
	Additional Nutrients needed, lbs/acre (calculated above)	-75	75	0	
divided by	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	4.5	14.6	1.8	
equals	Manure Application Rate, tons/acre or 1,000 gal/acre	-16.8	5.1	0.0	#DIV/0!

Comments:

d) The permittee will complete the Nutrient Budget Worksheet, below, for each crop grown on each field to which manure or process waste water is or may be applied during the first year of application. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

Nutrient Budget Worksheet

Year	Site/Field:	Pivot #2 Alfalfa			
Nutrient Budget		Nitrogen-based Application		Phosphorus-based Application	
NUTRIENTS		N	P	K	
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	30	58	150	
minus	Available nutrients from Soil Sample	51			
minus	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	0			
minus	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	0			
minus	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		150	
minus	Nutrients supplied in irrigation water, lbs/acre	0			
equals	Additional Nutrients Needed, lbs/acre	-21	58	0	0
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	38.8	26.8	1.8	
times	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.11	1.0	1.0	
equals	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	4.5	14.6	1.8	0
	Additional Nutrients needed, lbs/acre (calculated above)	-21	58	0	
divided by	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	4.5	14.6	1.8	
equals	Manure Application Rate, tons/acre or 1,000 gal/acre	-4.7	4.0	0.0	#DIV/0!

Comments:

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Nutrient Budget Worksheet

Year	2011	Site/Field:	Pivot #3 Corn			
Nutrient Budget		Nitrogen-based Application			Phosphorus-based Application	
NUTRIENTS		N	P	K		
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	180	65	15		
minus	Available nutrients from Soil Sample	96				
minus	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	0				
minus	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	0				
minus	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	30				
minus	Nutrients supplied in irrigation water, lbs/acre	0				
equals	Additional Nutrients Needed, lbs/acre	54	65	15	0	
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	38.8	26.8	1.8		
times	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.11	1.0	1.0		
equals	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	4.5	14.6	1.8	0	
	Additional Nutrients needed, lbs/acre (calculated above)	54	65	15		
divided by	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	4.5	14.6	1.8		
equals	Manure Application Rate, tons/acre or 1,000 gal/acre	12.1	4.5	8.3	#DIV/0!	

Comments:

d) The permittee will complete the Nutrient Budget Worksheet, below, for each crop grown on each field to which manure or process waste water is or may be applied during the first year of application. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

Nutrient Budget Worksheet

Year	Site/Field:	Pivot #4 Corn			
Nutrient Budget		Nitrogen-based Application		Phosphorus-based Application	
NUTRIENTS		N	P	K	
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	180	65	60	
minus	Available nutrients from Soil Sample	51			
minus	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	0			
minus	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	0			
minus	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	40		60	
minus	Nutrients supplied in irrigation water, lbs/acre	0			
equals	Additional Nutrients Needed, lbs/acre	89	65	0	0
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	38.8	26.8	1.8	
times	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.11	1.0	1.0	
equals	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	4.5	14.6	1.8	0
	Additional Nutrients needed, lbs/acre (calculated above)	89	65	0	
divided by	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	4.5	14.6	1.8	
equals	Manure Application Rate, tons/acre or 1,000 gal/acre	20.0	4.5	0.0	#DIV/0!

Comments:

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Nutrient Budget Worksheet

Year	Site/Field:	Pivot #5 Corn			
Nutrient Budget		Nitrogen-based Application		Phosphorus-based Application	
NUTRIENTS		N	P	K	
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	180	10	10	
minus	Available nutrients from Soil Sample	63			
minus	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	0			
minus	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	0			
minus	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	50		10	
minus	Nutrients supplied in irrigation water, lbs/acre	0			
equals	Additional Nutrients Needed, lbs/acre	67	10	0	0
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	38.8	26.8	1.8	
times	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.11	1.0	1.0	
equals	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	4.5	14.6	1.8	0
	Additional Nutrients needed, lbs/acre (calculated above)	67	10	0	
divided by	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	4.5	14.6	1.8	
equals	Manure Application Rate, tons/acre or 1,000 gal/acre	15.0	0.7	0.0	#DIV/0!

Comments:

d) The permittee will complete the Nutrient Budget Worksheet, below, for each crop grown on each field to which manure or process waste water is or may be applied during the first year of application. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

Nutrient Budget Worksheet

Year	Site/Field:	Pivot #5 Corn			
Nutrient Budget		Nitrogen-based Application		Phosphorus-based Application	
NUTRIENTS		N	P	K	
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	180	10	10	
minus	Available nutrients from Soil Sample	108			
minus	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	0			
minus	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	0			
minus	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		10	
minus	Nutrients supplied in irrigation water, lbs/acre	0			
equals	Additional Nutrients Needed, lbs/acre	72	10	0	0
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	38.8	26.8	1.8	
times	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.11	1.0	1.0	
equals	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	4.5	14.6	1.8	0
	Additional Nutrients needed, lbs/acre (calculated above)	72	10	0	
divided by	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	4.5	14.6	1.8	
equals	Manure Application Rate, tons/acre or 1,000 gal/acre	16.2	0.7	0.0	#DIV/0!

Comments:

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Nutrient Budget Worksheet

Year	Site/Field:	Pivot #7 Alfalfa			
Nutrient Budget		Nitrogen-based Application			Phosphorus-based Application
NUTRIENTS		N	P	K	
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	30	75	124	
minus	Available nutrients from Soil Sample	83			
minus	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	0			
minus	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	0			
minus	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		100	
minus	Nutrients supplied in irrigation water, lbs/acre	0			
equals	Additional Nutrients Needed, lbs/acre	-53	75	24	0
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	38.8	26.8	1.8	
times	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.11	1.0	1.0	
equals	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	4.5	14.6	1.8	0
	Additional Nutrients needed, lbs/acre (calculated above)	-53	75	24	
divided by	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	4.5	14.6	1.8	
equals	Manure Application Rate, tons/acre or 1,000 gal/acre	-11.9	5.1	13.3	#DIV/O!

Comments:

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Nutrient Budget Worksheet

Year	Site/Field:	Pivot #8 east half Corn			
Nutrient Budget		Nitrogen-based Application		Phosphorus-based Application	
NUTRIENTS		N	P	K	
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	180	20	63	
minus	Available nutrients from Soil Sample	36			
minus	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	0			
minus	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	0			
minus	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	77		36	
minus	Nutrients supplied in irrigation water, lbs/acre	0			
equals	Additional Nutrients Needed, lbs/acre	67	20	27	0
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	38.8	26.8	1.8	
times	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.11	1.0	1.0	
equals	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	4.5	14.6	1.8	0
	Additional Nutrients needed, lbs/acre (calculated above)	67	20	27	
divided by	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	4.5	14.6	1.8	
equals	Manure Application Rate, tons/acre or 1,000 gal/acre	15.0	1.4	15.0	#DIV/0!

Comments:

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Nutrient Budget Worksheet

Year	Site/Field:	Pivot #8 W1/2 Alfalfa			
Nutrient Budget		Nitrogen-based Application		Phosphorus-based Application	
NUTRIENTS		N	P	K	
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	30	75	35	
minus	Available nutrients from Soil Sample	84			
minus	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	0			
minus	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	0			
minus	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		15	
minus	Nutrients supplied in irrigation water, lbs/acre	0			
equals	Additional Nutrients Needed, lbs/acre	-54	75	20	0
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	38.8	26.8	1.8	
times	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.11	1.0	1.0	
equals	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	4.5	14.6	1.8	0
	Additional Nutrients needed, lbs/acre (calculated above)	-54	75	20	
divided by	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	4.5	14.6	1.8	
equals	Manure Application Rate, tons/acre or 1,000 gal/acre	-12.1	5.1	11.1	#DIV/0!

Comments:

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Nutrient Budget Worksheet

Year	Site/Field:	Pivot #9 Corn			
Nutrient Budget		Nitrogen-based Application		Phosphorus-based Application	
NUTRIENTS		N	P	K	
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	180	50	50	
minus	Available nutrients from Soil Sample	19			
minus	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	0			
minus	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	0			
minus	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	94		23	
minus	Nutrients supplied in irrigation water, lbs/acre	0			
equals	Additional Nutrients Needed, lbs/acre	67	50	27	0
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	38.8	26.8	1.8	
times	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.11	1.0	1.0	
equals	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	4.5	14.6	1.8	0
	Additional Nutrients needed, lbs/acre (calculated above)	67	50	27	
divided by	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	4.5	14.6	1.8	
equals	Manure Application Rate, tons/acre or 1,000 gal/acre	15.0	3.4	15.0	#DIV/0!

Comments:

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Nutrient Budget Worksheet

Year	Site/Field:	Pivot #10 Corn			
Nutrient Budget		Nitrogen-based Application		Phosphorus-based Application	
NUTRIENTS		N	P	K	
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	180	10	35	
minus	Available nutrients from Soil Sample	51			
minus	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	0			
minus	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	0			
minus	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	62		8	
minus	Nutrients supplied in irrigation water, lbs/acre	0			
equals	Additional Nutrients Needed, lbs/acre	67	10	27	0
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	38.8	26.8	1.8	
times	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.11	1.0	1.0	
equals	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	4.5	14.6	1.8	0
	Additional Nutrients needed, lbs/acre (calculated above)	67	10	27	
divided by	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	4.5	14.6	1.8	
equals	Manure Application Rate, tons/acre or 1,000 gal/acre	15.0	0.7	15.0	#DIV/0!

Comments:

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Nutrient Budget Worksheet

Year	Site/Field:	Pivot #11 Alfalfa			
Nutrient Budget		Nitrogen-based Application			Phosphorus-based Application
NUTRIENTS		N	P	K	
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	30	75	140	
minus	Available nutrients from Soil Sample	39			
minus	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	0			
minus	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	0			
minus	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		113	
minus	Nutrients supplied in irrigation water, lbs/acre	0			
equals	Additional Nutrients Needed, lbs/acre	-9	75	27	0
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	38.8	26.8	1.8	
times	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.11	1.0	1.0	
equals	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	4.5	14.6	1.8	0
	Additional Nutrients needed, lbs/acre (calculated above)	-9	75	27	
divided by	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	4.5	14.6	1.8	
equals	Manure Application Rate, tons/acre or 1,000 gal/acre	-2.0	5.1	15.0	#DIV/0!

Comments:

Section F - CERTIFICATION

Permittee Information:

This Form NMP must be completed, signed, and certified as follows:

- For a corporation, by a principal officer of at least the level of vice president;
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
- For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

All Permittees Must Complete the Following Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information; including the possibility of fine and imprisonment for knowing violations. [75-5-633, MCA]

A. Name (Type or Print)

Bice Ranch LLC by Donald Bice

B. Title (Type or Print)

member

C. Phone No.

421-5555

D. Signature

Donald Bice

E. Date Signed

5-9-12

Return the Form NMP, Nutrient Management Plan to:

Department of Environmental Quality
Water Protection Bureau
PO Box 200901
Helena, MT 59620-0901
(406) 444-3080

INSTRUCTIONS FOR

Form NMP - Nutrient Management Plan Associated With Concentrated Animal Feeding Operations

You may need the following items in order to complete this form: A copy of your most recently submitted Form 2B; a copy of Department Circular DEQ 9, "Montana Technical Standards for Concentrated Animal Feeding Operations;" a copy of soil and manure sample analyses; and a calculator.

Please type or print legibly; forms that are not legible or are not complete will be returned.

SPECIFIC ITEM INSTRUCTIONS

Section A – NMP Status:

Check the box that applies and provide the requested information. If Form NMP has not been previously submitted for this site, check the first box (New). If you submitted a Form NMP and the Department returned it to you as deficient or incomplete, check the second box (Resubmitted); if you were notified by the Department that the permit coverage expired and you are now submitting an updated Form NMP, check the third box (Renewal); if there is a change in the facility or site information (Section H), check the last box (Modification). If a Form NMP has been submitted and returned as incomplete, then the permit number appears in the upper right hand corner of the form. If the site is covered under the *General Permit for Concentrated Animal Feeding Operations*, the number is given on the Authorization letter sent to you by the Department. The permit number must be included on any correspondence with the Department regarding this site.

Section B – Facility or Site Information:

The information must be stated exactly the same way as it was stated on the most recently submitted version of your Form 2B.

Section C – Applicant (Owner/Operator) Information:

The information must be stated exactly the same way as it was stated on the most recently submitted version of your Form 2B.

Section D – Waste Management Minimum Elements:

Livestock Statistics: Identify each type of animal confined at your facility. The definition of "type" could include animals of a given species, animals of a given weight class (e.g. piglets, sows), or animals housed for a specific purpose (e.g. dry cows, milking cows).

"Number of days on site per year" means the number of days at least one animal of a given type is held in confinement during any 12-month period.

"Annual manure production" means the volume of manure (from a given animal type) that is stored, land applied, or transferred to other persons during any given 12-month period. When describing the method used to calculate annual manure production, include all formulas, factors, references to tables, and other resources used to calculate manure production. Be sure to account for soiled bedding materials and manure-contaminated runoff water, also considered manure under state regulations.

Manure Removal from Confinement Area, list each confinement area at your facility. For example, pens, freestall barns, hog barns, poultry barns, yard back, calving pens, etc.

“Temporary manure storage areas” may include, but are not limited to, structures such as underground tanks and underfloor pits.

List all waste control structures. These may include, but are not limited to, manure lagoons, manure ponds, evaporation ponds, wastewater retention ponds, contaminated runoff retention ponds, settling basins, underground storage tanks, underfloor pits, manure solids stacking pads, composting facilities, and dry-stack facilities. Berms, dikes, concrete curbs, ditches, and waste transfer pipelines are also waste control structures and must be listed, though some of the requested measurements may not apply (e.g. “volume” usually does not apply to a waste transfer pipeline).

Disposal of Dead Animals, please be as specific as possible with the information that you provide. For example, if dead animals are disposed of by burial, the method/practice description should include the fact that they are buried, how quickly after death they are hauled to the burial site, and how quickly they are covered with soil. The method/practice location information should be detailed enough that an inspector could find the site without the need for additional guidance. It may not simply reference a map.

Clean Water Diversion Practices, the practice description does not need to be any more detailed than “berm,” “ditch,” “grassy swale,” etc. The practice location may not simply reference a map.

Prohibiting Animals & Wastes from Contact with State Waters, the practice description does not need to be any more detailed than “fence,” “wall,” etc. The practice location may not simply reference a map.

Chemicals and Contaminants, list all major chemicals or other contaminants handled on site as part of your CAFO operation. These would include, but are not be limited to, pesticides, herbicides, animal dips, disinfectants, etc. Specify the method of disposal for each chemical/contaminant.

Describe *Best Management Practices* (BMPs) used to control runoff of pollutants from the production area, and land application area. Please note that “production area” means that part of a CAFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The “animal confinement area” includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The “manure storage area” includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The “raw materials storage area” includes but is not limited to feed silos, silage bunkers, and bedding materials. The “waste containment area” includes but is not limited to settling basins, and areas within berms and diversions which separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.

If you transfer all of the wastes your CAFO produces, and do not land apply any of it to ground under your operational control, then you will not have any land application area BMPs to describe.

Section E – Land Application:

If all of the manure produced at your facility will be transferred to other persons for use in areas beyond your operational control, then you do not need to provide the information requested in Section E of this form.

Photos and/or Maps:

Manure/waste handling and nutrient management restrictions that must be on the photo/map include buffers and setbacks around state surface waters, well heads, etc.

Nutrient Management and Waste Utilization via Land Application:

The purpose for having two options is to allow you to make use of the valuable technical assistance provided by the USDA's Natural Resources Conservation Service (NRCS), if you should so desire.

Requirements: Land application equipment calibration is essential to ensuring that nutrients are being applied at agronomic rates. Section 5 of Department Circular DEQ 9 contains sample instructions on how to calibrate some types of land application equipment. The instructions in Section 5 of Department Circular DEQ 9 are purely recommendations, other methods may work just as well. When sending manure or soil samples to a laboratory for analysis, it is your responsibility to make sure that the lab uses the correct sampling procedures. You should never just "assume" that they will. It is also your responsibility to make sure that the results of the analysis are reported using the appropriate units of measurement. Before you take any samples, talk to the lab that you intend to use. Ask them if they have specific instructions on how to obtain and submit samples. If they do, then you must follow their instructions in order to help ensure that the analysis results you get are as accurate as possible.

You will most likely need to make and fill out multiple photocopies of "Table 4 – Crops and Manure" For information on how to fill out specific sections of Table 6 – Phosphorus Index, please refer to Attachment 2 of Department Circular DEQ 9.

"Table 9 – Nutrient Budget Worksheet" must be filled out for each crop grown on each field to which manure or process wastewater will or may be applied, regardless of whether Method A has been used or Method B has been used. When filling out Table 9, be sure and refer to nitrogen in terms of pounds of elemental nitrogen. Phosphorus should be referred to in pounds of P_2O_5 .

Section F – Certification:

If Form NMP is filled out by one person and signed by another, the person signing the document should read it thoroughly. Always retain a copy of each of the documents that you send to the Department.

If you have any questions concerning how to fill out this form, or other forms related to the Montana Pollutant Discharge Elimination System (MPDES) discharge permitting program, please contact the Department's Water Protection Bureau at:

Phone: (406) 444-3080
Fax: (406) 444-1374
1520 East Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901

Appendix A: Phosphorus Index Worksheet (Complete for each field or crop)

Site/Field:								
Site Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0, 1, 2, 4, 8)	Weight Factor	Weighted Risk
Soil Erosion	N/A	<5 tons/ac/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	>15 tons/ac/yr	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tailwater recovery, QS>6 very erodible soils, or QS>10 other soils	QS>10 for erosion resistant soils	QS>10 for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All sites 0-3% slope, all sandy sites, or site evaluation indicates little or no runoff, large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8%, large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	1	X 0.5	.5
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	.5
Olson Soil Test P	-----	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	10	X 1.0	1
Commercial P Fertilizer Application Method	None Applied	Placed with planter or injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during the growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P2O5	31-90 lbs/ac P2O5	91-150 lbs/ac P2O5	>150 lbs/ac P2O5	2	X 1.0	2
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season.	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges.	2	X 1.0	2
Organic P Application Rate	None Applied	<30 lbs/ac P2O5	31-90 lbs/ac P2O5	91-150 lbs/ac P2O5	>150 lbs/ac P2O5	2	X 1.0	2
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or applications are directly into concentrated surface water flow areas.	1	X 1.0	1
Total Phosphorus Index Value: 11.5								

Bice Ranch LLC Land Application Field Soils Map Pivots 1 - 6

Pivot 5

PIVOT 6

Pivot 4

Pivot 2

52A

30C

30C

489A

453A

30C

53A

27A

489A

53A

79A

452A

489A

79A

83B

79A

486A

31A

Bice Ranch LLC

Land Application Project

Soils Map

Figure 7.9

Pivot 9

297E

297E

297C

297E

53A

901C

297C

62A

79A

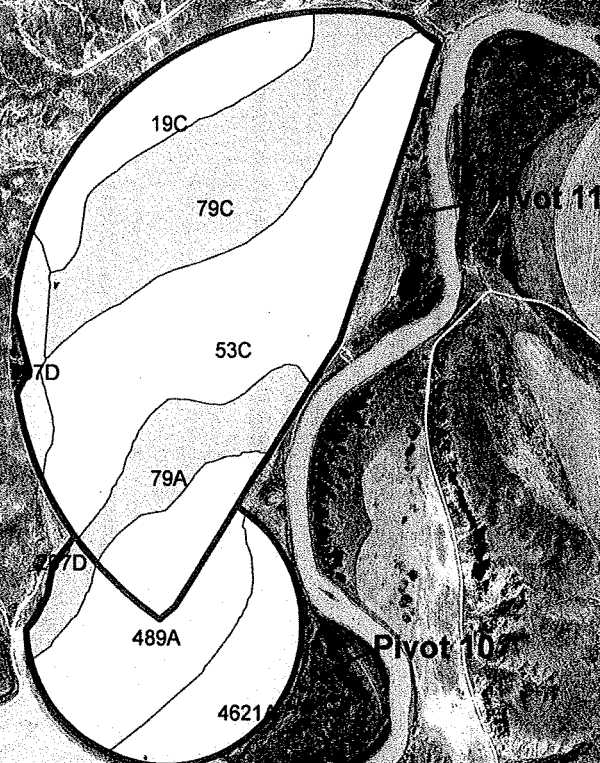
462

489A

489A

453A

Bice Ranch LLC
Land Application Fields
Soils Map
Pivots 10 & 11



Map Unit Legend

Custer County Area, Montana

Map symbol	Map unit name
19C	Archin loam, 2 to 8 percent slopes
27A	Busby fine sandy loam, 0 to 2 percent slopes
30C	Yamacall-Havre, occasionally flooded, loams, 0 to 8 percent slopes
53A	Kobase silty clay loam, 0 to 2 percent slopes
53C	Kobase silty clay loam, 2 to 8 percent slopes
62A	Marvan silty clay, 0 to 2 percent slopes
79A	Yamacall loam, 0 to 2 percent slopes
79C	Yamacall loam, 2 to 8 percent slopes
93B	Brushton silt loam, 0 to 4 percent slopes
297C	Cambeth, noncalcareous-Mégonot complex, 2 to 8 percent slopes
297D	Cambeth, noncalcareous-Mégonot complex, 8 to 15 percent slopes
297E	Cambeth, calcareous-Cabbart-Yawdim complex, 15 to 25 percent slopes
311A	Ryell loam, 0 to 2 percent slopes, occasionally flooded
452A	Glendive loam, 0 to 2 percent slopes, rarely flooded
453A	Glendive-Havre complex, 0 to 2 percent slopes, occasionally flooded
481A	Havre loam, 0 to 2 percent slopes, occasionally flooded
486A	Glendive-Havre complex, 0 to 2 percent slopes, nonflooded
489A	Spinekop silty clay loam, 0 to 2 percent slopes
901C	Sonnett-Sonnett, thin surface, complex, 2 to 8 percent slopes
4621A	Hanly-Glendive complex, 0 to 2 percent slopes, occasionally flooded

**Bice River
Land Application Fields
100 foot Buffer
Pivots 1 - 6**

PIVOT 5

PIVOT 6

Bice River

PIVOT 2

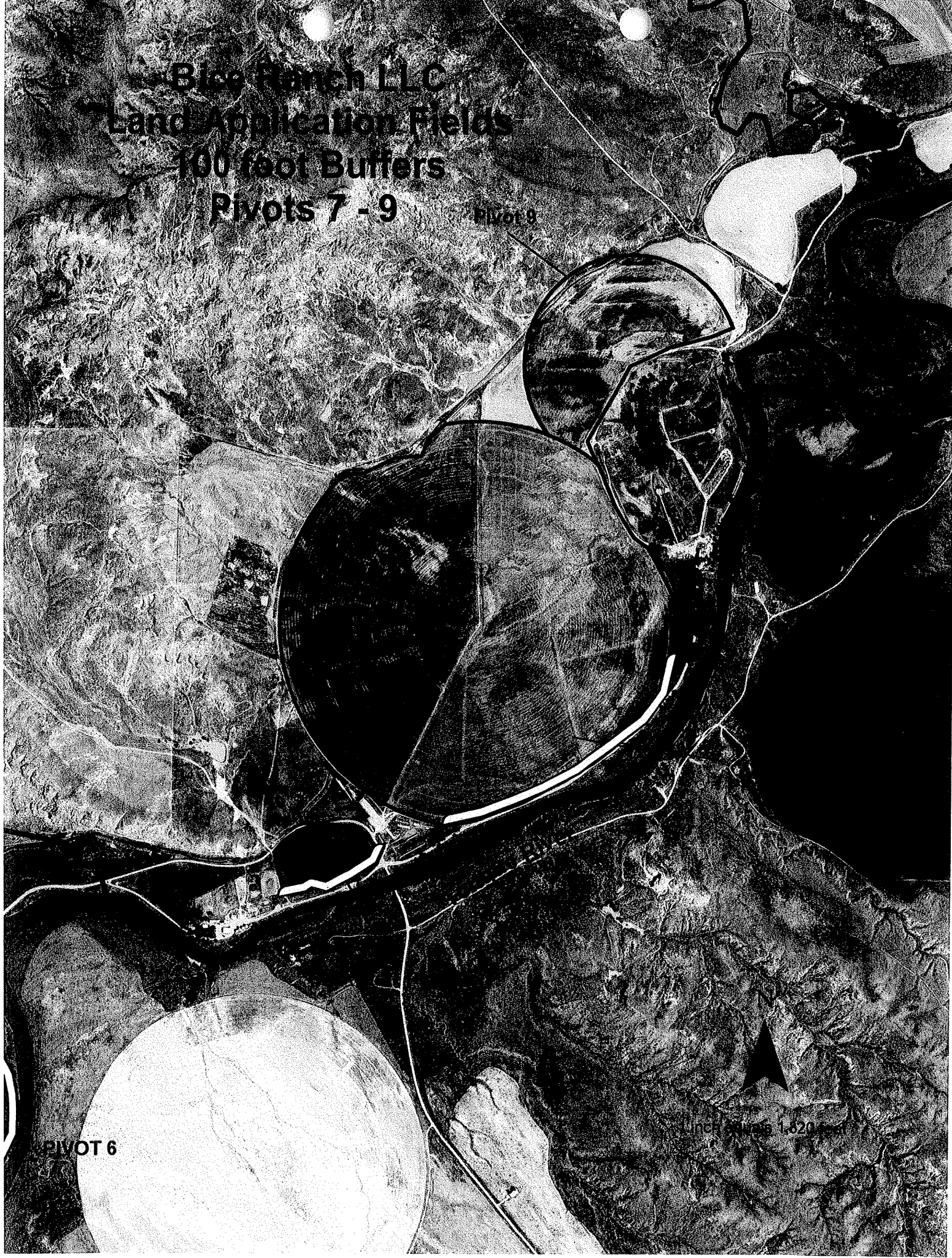
1 inch equals 1350 feet

Bice Ranch LLC
Land Application Fields
100 foot Buffers
Pivots 7 - 9

PIVOT 8

PIVOT 6

Unch. Pivot 1,520 feet



**Etce Ranch LLC
Land Application Fields
100 foot Buffers
Pivots 10 & 11**



Manure Management Plan Data

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FIELDS

Field ID	Subfield ID	Total Size (Acres)	Spreadable Size (Acres)	Storage Distance (Miles)	County (If Different From Operation's County)	Predominant Soil Type (Name, Texture, Survey Area ID, Map Symbol, Slope Range)	Slope % (If Not Ave.)	Irrigated With Water	Is Not Owned	Farm ID	FSA Farm	FSA Tract	FSA Field	Notes
2	P-8E	215.6	205.6	0.1		Spinekop SICL (017 489A 0-2%)	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
2a	P-8W	150.3	150.3	0.2		Sonnett SICL (017 901A 0-2%)	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
3	P-11	174.7	169.2	1		Yamacall L (017 79A 0-2%)	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
4	P-10	51.2	48.3	0.9		Spinekop SICL (017 489A 0-2%)	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
4a		12.4				Spinekop SICL (017 489A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
5		15.7				Glendive L (017 452A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
10		8				Spinekop SICL (017 489A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
13		12.6				Sonnett SICL (017 901A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
14		15.3				Sonnett SICL (017 901A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
15		136.7				Sonnett SICL (017 901C 2-8%)	6	<input type="checkbox"/>	<input type="checkbox"/>					
16	P-5	20.1	20.1	1.7		Yamacall L (017 30C 2-8%)	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
17	P-6	47.6	42.3	1.6		Spinekop SICL (017 489A 0-2%)	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
18		25.9				Yamacall L (017 30C 2-8%)	6	<input type="checkbox"/>	<input type="checkbox"/>					
19	P-4	144.7	140.1	2		Kobase SICL (017 53A 0-2%)	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
20		13.3				Spinekop SICL (017 489A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					

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Field ID	Subfield ID	Total Size (Acres)	Spread-able Size (Acres)	Storage Distance (Miles)	County (if Different From Operation's County)	Predominant Soil Type (Name, Texture, Survey Area ID, Map Symbol, Slope Range)	Slope % (if Not Ave.)	Irrigated With Water	Is Not Owned	Farm ID	FSA Farm	FSA Tract	FSA Field	Notes
21		245.8				Kobase SICL (017 53C 2-8%)	6	<input type="checkbox"/>	<input type="checkbox"/>					
22		18.1				Havre SICL (017 488A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
23		62.2				Brushton SIL (017 93B 0-4%)	4	<input type="checkbox"/>	<input type="checkbox"/>					
25		44				Spinekop SICL (017 489A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
27	P - 3	321.8	313.9	2.5		Spinekop SICL (017 489A 0-2%)	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
29		106.7				Brushton SIL (017 93B 0-4%)	4	<input type="checkbox"/>	<input type="checkbox"/>					
30		29.1				Brushton SIL (017 93B 0-4%)	4	<input type="checkbox"/>	<input type="checkbox"/>					
31		11.8				Lonna SIL (017 57A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
33	P - 2	30.1	28.3	3		Yamacall L (017 79A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
34		45.8				Kobase SICL (017 53A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
35	P - 1	39.1	37.5	3.3		Glendive FSL (017 486A 0-2%)	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
36		16.6				Lonna SIL (017 57A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
37		7.1				Spinekop SICL (017 489A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
38	P - 7	14.4	11	0.9		Spinekop SICL (017 489A 0-2%)	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
39		45.7				Sonnett SICL (017 901C 2-8%)	6	<input type="checkbox"/>	<input type="checkbox"/>					

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40		7.8				Kobase SICL (017 53A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					
41	P - 9	62.5	62.5	0.1		Kobase SICL (017 53A 0-2%)	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
42		9				Cambeth SIL (017 297E 15-25%)	18	<input type="checkbox"/>	<input type="checkbox"/>					
43		8.7				Hanly LFS (017 4621A 0-2%)	2	<input type="checkbox"/>	<input type="checkbox"/>					

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ASSESSMENT, All States

Field ID	Subfield ID	Distance To Water (Feet)	Type Of Water	Slope Length (Feet)	Runoff Reduction Practice	Buffer Width (Feet)	Type Of Artificial Drainage	Manure Applied Annually	Will Not Receive Manure	Water Erosion (T/A/Yr)	Wind Erosion (T/A/Yr)	Irrigation Erosion (T/A/Yr)	Gully Erosion (T/A/Yr)	Ephem. Erosion (T/A/Yr)	P Index Or Risk Index	Notes
2	P-8E	300	Perennial stream		<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	0		0	0	0		
2a	P-8W	1,500	Perennial stream		<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	0		0	0	0		
3	P-11	250	Perennial stream		<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	0		0	0	0		
4	P-10	200	Perennial stream		<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	0		0	0	0		
4a		200	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
5		450	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
10		300	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
13		6,000	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
14		4,500	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
15		3,000	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
16	P-5	1,650	Perennial stream		<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	0		0	0	0		
17	P-6	100	Perennial stream		<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	0		0	0	0		
18		1,000	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
19	P-4	100	Perennial stream		<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	0		0	0	0		
20		350	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							

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Field ID	Subfield ID	Distance To Water (Feet)	Type Of Water	Slope Length (Feet)	Runoff Reduction Practice	Buffer Width (Feet)	Type Of Artificial Drainage	Manure Applied Annually	Will Not Receive Manure	Water Erosion (T/A/Yr)	Wind Erosion (T/A/Yr)	Irrigation Erosion (T/A/Yr)	Gully Erosion (T/A/Yr)	Ephem. Erosion (T/A/Yr)	P Index Or Risk Index	Notes
21		5,600	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
22		6,500	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
23		5,200	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
25		4,000	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
27	P - 3	100	Perennial stream		<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	0		0	0	0	0	
29		450	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
30		175	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
31		1,200	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
33	P - 2	100	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	0		0	0	0	0	
34		650	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
35	P - 1	200	Perennial stream		<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	0		0	0	0	0	
36		100	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
37		100	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
38	P - 7	100	Perennial stream		<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	0		0	0	0	0	
39		3,600	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							

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Field ID	Subfield ID	Distance To Water (Feet)	Type Of Water	Slope Length (Feet)	Runoff Reduction Practice	Buffer Width (Feet)	Type Of Artificial Drainage	Manure Applied Annually	Will Not Receive Manure	Water Erosion (T/A/Yr)	Wind Erosion (T/A/Yr)	Irrigation Erosion (T/A/Yr)	Gully Erosion (T/A/Yr)	Ephem. Erosion (T/A/Yr)	P Index Or Risk Index	Notes
40		2,400	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
41	P - 9	300	Perennial stream		<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	0		0	0	0		
42		500	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							
43		100	Perennial stream		<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>							

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CROPS

Field ID	Subfield ID	Crop Year	Planned Crop	Yield Goal (/Acre)	Yield Units	Legume % Stand	Default N Rec (Lb/A)	Default P ₂ O ₅ Rec (Lb/A)	Default K ₂ O Rec (Lb/A)	Custom N Rec (Lb/A)	Custom P ₂ O ₅ Rec (Lb/A)	Custom K ₂ O Rec (Lb/A)	Source Of Custom Fertilizer Recommendations
2	P-8E	2011	Dry beans	5,000 Lb			185	5	15				
2	P-8E	2012	Corn, grain	150 Bu			115	20	55				
2	P-8E	2013	Corn, grain	150 Bu			115	20	55				
2	P-8E	2014	Corn, grain	150 Bu			115	20	55				
2	P-8E	2015	Corn, grain	150 Bu			115	20	55				
2a	P-8W	2011	Alfalfa	6 Ton			0	10	40				
2a	P-8W	2012	Alfalfa	6 Ton			0	10	40				
2a	P-8W	2013	Alfalfa	6 Ton			0	10	40				
2a	P-8W	2014	Alfalfa	6 Ton			0	10	40				
2a	P-8W	2015	Alfalfa	6 Ton			0	10	40				
3	P-11	2011	Alfalfa	6 Ton			0	75	140				
3	P-11	2012	Alfalfa	6 Ton			0	75	140				
3	P-11	2013	Alfalfa	6 Ton			0	75	140				
3	P-11	2014	Alfalfa	6 Ton			0	75	140				
3	P-11	2015	Alfalfa	6 Ton			0	75	140				

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Field ID	Subfield ID	Crop Year	Planned Crop	Yield Goal (/Acre)	Yield Units	Legume % Stand	Default N Rec (Lb/A)	Default P ₂ O ₅ Rec (Lb/A)	Default K ₂ O Rec (Lb/A)	Custom N Rec (Lb/A)	Custom P ₂ O ₅ Rec (Lb/A)	Custom K ₂ O Rec (Lb/A)	Source Of Custom Fertilizer Recommendations
4	P -10	2011	Corn, grain	150 Bu	150 Bu		90	20	50				
4	P -10	2012	Corn, grain	150 Bu	150 Bu		90	20	50				
4	P -10	2013	Corn, grain	150 Bu	150 Bu		90	20	50				
4	P -10	2014	Corn, grain	150 Bu	150 Bu		90	20	50				
4	P -10	2015	Corn, grain	150 Bu	150 Bu		90	20	50				
16	P -5	2011	Corn, grain	150 Bu	150 Bu		45	20	20				
16	P -5	2012	Corn, grain	150 Bu	150 Bu		45	20	20				
16	P -5	2013	Corn, grain	150 Bu	150 Bu		45	20	20				
16	P -5	2014	Corn, grain	150 Bu	150 Bu		45	20	20				
16	P -5	2015	Corn, grain	150 Bu	150 Bu		45	20	20				
17	P -6	2011	Corn, grain	150 Bu	150 Bu		0	20	20				
17	P -6	2012	Corn, grain	150 Bu	150 Bu		0	20	20				
17	P -6	2013	Corn, grain	150 Bu	150 Bu		0	20	20				
17	P -6	2014	Corn, grain	150 Bu	150 Bu		0	20	20				
17	P -6	2015	Corn, grain	150 Bu	150 Bu		0	20	20				

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Field ID	Subfield ID	Crop Year	Planned Crop	Yield Goal (/Acre)	Yield Units	Legume % Stand	Default N Rec (Lb/A)	Default P ₂ O ₅ Rec (Lb/A)	Default K ₂ O Rec (Lb/A)	Custom N Rec (Lb/A)	Custom P ₂ O ₅ Rec (Lb/A)	Custom K ₂ O Rec (Lb/A)	Source Of Custom Fertilizer Recommendations
19	P - 4	2011	Corn, grain	150 Bu			0	65	60				
19	P - 4	2012	Corn, grain	150 Bu			0	65	60				
19	P - 4	2013	Corn, grain	150 Bu			0	65	60				
19	P - 4	2014	Corn, grain	150 Bu			0	65	60				
19	P - 4	2015	Corn, grain	150 Bu			0	65	60				
27	P - 3	2011	Corn, grain	150 Bu			0	65	20				
27	P - 3	2012	Dry beans	5,000 Lb			65	20	5				
27	P - 3	2013	Corn, grain	150 Bu			0	65	20				
27	P - 3	2014	Corn, grain	150 Bu			0	65	20				
27	P - 3	2015	Corn, grain	150 Bu			0	65	20				
33	P - 2	2011	Alfalfa	6 Ton			0	60	160				
33	P - 2	2012	Alfalfa	6 Ton			0	60	160				
33	P - 2	2013	Alfalfa	6 Ton			0	60	160				
33	P - 2	2014	Alfalfa	6 Ton			0	60	160				
33	P - 2	2015	Alfalfa	6 Ton			0	60	160				

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Field ID	Subfield ID	Crop Year	Planned Crop	Yield Goal (/Acre)	Yield Units	Legume % Stand	Default N Rec (Lb/A)	Default P ₂ O ₅ Rec (Lb/A)	Default K ₂ O Rec (Lb/A)	Custom N Rec (Lb/A)	Custom P ₂ O ₅ Rec (Lb/A)	Custom K ₂ O Rec (Lb/A)	Source Of Custom Fertilizer Recommendations
35	P - 1	2011	Alfalfa	6	Ton		0	75	145				
35	P - 1	2012	Alfalfa	6	Ton		0	75	145				
35	P - 1	2013	Alfalfa	6	Ton		0	75	145				
35	P - 1	2014	Alfalfa	6	Ton		0	75	145				
35	P - 1	2015	Alfalfa	6	Ton		0	75	145				
38	P - 7	2011	Alfalfa	6	Ton		0	75	125				
38	P - 7	2012	Alfalfa	6	Ton		0	75	125				
38	P - 7	2013	Alfalfa	6	Ton		0	75	125				
38	P - 7	2014	Alfalfa	6	Ton		0	75	125				
38	P - 7	2015	Alfalfa	6	Ton		0	75	125				
41	P - 9	2011	Corn, grain	150	Bu		50	50	50				
41	P - 9	2012	Corn, grain	150	Bu		50	50	50				
41	P - 9	2013	Corn, grain	150	Bu		50	50	50				
41	P - 9	2014	Corn, grain	150	Bu		50	50	50				
41	P - 9	2015	Corn, grain	150	Bu		50	50	50				

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Soil Test Data

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 State: Montana

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 Soils File Rev: 9/8/2010

Field	Test Year	OM (%)	P Test Used	P	K	Mg	Ca	Na	Units	Soil pH	Buffer pH	CEC (meq/100g)	NO ₃ -N (ppm)	EC (mmhos/cm)
2 (P-8E)	2012	1.1	Olsen	17	190	437	3,761		ppm	7.9		11.0	8.0	
2a (P-8W)	2012	2.1	Olsen	15	241	744	4,623		ppm	7.7		23.0	19.0	
3 (P-11)	2012	0.8	Olsen	8	151	461	3,005		ppm	7.8		12.0	9.0	
4 (P-10)	2012	1.1	Olsen	26	203	381	3,479		ppm	7.6		19.0	11.0	
4a									ppm					
5									ppm					
10									ppm					
13									ppm					
14									ppm					
15									ppm					
16 (P-5)	2012	1.6	Olsen	19	448	804	4,280		ppm	7.9		16.0	17.0	
17 (P-6)	2012	2.1	Olsen	21	499	286	2,926		ppm	7.4		9.0	23.0	
18									ppm					
19 (P-4)	2012	1.5	Olsen	7	184	440	2,578		ppm	7.7		11.0	23.0	
20									ppm					
21									ppm					
22									ppm					
23									ppm					
25									ppm					
27 (P-3)	2012	1.8	Olsen	7	259	539	3,825		ppm	7.5		10.0	23.0	
29									ppm					
30									ppm					
31									ppm					
33 (P-2)	2012	1.1	Olsen	10	119	407	4,324		ppm	7.7		22.0	11.0	
34									ppm					
35 (P-1)	2012	1.0	Olsen	8	142	413	4,486		ppm	7.6		18.0	26.0	

Soil Test Data

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Field	Test Year	OM (%)	P Test Used	P	K	Mg	Ca	Na	Units	Soil pH	Buffer pH	CEC (meq/100g)	NO ₃ -N (ppm)	EC (mmhos/cm)
36									ppm					
37									ppm					
38 (P - 7)	2012	1.3 Olsen		8	166	456	3,987		ppm	7.4		14.0	22.0	
39									ppm					
40									ppm					
41 (P - 9)	2012	1.0 Olsen		10	203	427	4,113		ppm	7.2		17.0	19.0	
42									ppm					
43									ppm					

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ANIMALS

Animal ID	Animal Type And Production Phase	Animal Weight (Lb)	Number Of Animals	Animals Present From	Animals Present Through	Manure Collected (%)	Extra Water (Gal/Animal/Day)	Bedding (Lb/Animal/Day)	Where Will Manure Be Stored?	Notes
all	Weaned calf (beef)	750	3,500	Oct Late	Apr Late	100	20	1	Pens	

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ESTIMATED ANALYSIS

Storage ID	Esti- mated Total N	Est. NH ₄ -N	Est. Total P ₂ O ₅	Est. Total K ₂ O	Est. Max. Avail. N	Est. Avail. P ₂ O ₅	Est. Avail. K ₂ O	Analysis Units	Estimated Manure Production	Production Units
Pens	38.8	13.2	26.8	46.5	22.2	21.4	41.8	Lb/Ton	3,682	Ton/Year

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EQUIPMENT

Equipment ID	Spreader Or Applicator Type	Spreader Or Pump Capacity	Capacity Units	Minimum Application Rate	Rate Units	Application Width Or Area	Rate Units	Notes
Spreader	Solid spreader	20	Ton	10	Ton/A	50 Feet		

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MANURE APPLICATIONS, Part 1

Application Date	Field Where Manure Will Be Applied	Source Of Manure	Application Equipment	Days To Incorp.	Rate (/Acre)	Rate Basis	Loads	Amount Applied	Area Covered (Acres)	Apply At Or For	Units
Aug 2012	2 P- 8E	Pens	Spreader	1	15	Custom rate	123	2,460	164	1,160	Feet/ Load
Aug 2012	2a P- 8W	Pens	Spreader	1	15	Custom rate	61	1,220	81.3	1,160	Feet/ Load
Aug 2013	3 P -11	Pens	Spreader	1	15	Custom rate	125	2,500	166.7	1,160	Feet/ Load
Aug 2013	4 P -10	Pens	Spreader	1	15	Custom rate	36	720	48	1,160	Feet/ Load
Aug 2013	41 P - 9	Pens	Spreader	1	15	Custom rate	23	460	30.7	1,160	Feet/ Load
Jul 2014	38 P - 7	Pens	Spreader	1	15	Custom rate	8	160	10.7	1,160	Feet/ Load
Jul 2014	41 P - 9	Pens	Spreader	1	15	Custom rate	24	480	32	1,160	Feet/ Load
Aug 2014	16 P - 5	Pens	Spreader	1	15	Custom rate	15	300	20	1,160	Feet/ Load
Aug 2014	17 P - 6	Pens	Spreader	1	15	Custom rate	31	620	41.3	1,160	Feet/ Load
Aug 2014	19 P - 4	Pens	Spreader	1	15	Custom rate	105	2,100	140	1,160	Feet/ Load
Aug 2015	27 P - 3	Pens	Spreader	1	15	Custom rate	185	3,700	246.7	1,160	Feet/ Load

Manure Management Plan Data

Operation: Bice Ranch LLC
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County: Custer
 State: Montana

Plan Saved: 5/3/2012
 Init. File Rev: 4/8/2010
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MANURE APPLICATIONS, Part 2

Application Date	Field Where Manure Will Be Applied	Avail. N (Lb/A)	N Balance (Lb/A)	Avail. P ₂ O ₅ (Lb/A)	P ₂ O ₅ Balance (Lb/A)	Avail. K ₂ O (Lb/A)	K ₂ O Balance (Lb/A)	Notes
Aug 2012	2 P-8E	141	26	322	302	627	572	
Aug 2012	2a P-8W	141	0	322	312	627	587	
Aug 2013	3 P-11	141	0	322	247	627	487	
Aug 2013	4 P-10	141	51	322	302	627	577	
Aug 2013	41 P-9	141	91	322	272	627	577	
Jul 2014	38 P-7	141	0	322	247	627	502	
Jul 2014	41 P-9	141	105	322	272	627	577	
Aug 2014	16 P-5	141	96	322	302	627	607	
Aug 2014	17 P-6	141	141	322	302	627	607	
Aug 2014	19 P-4	141	141	322	257	627	567	
Aug 2015	27 P-3	141	141	322	257	627	607	

Projected Soil P And K Levels

Plan File: C:\Program Files\USDA\MMMP 0.25\biceranch.mmp

Operation: Bice Ranch LLC

State: Montana

Last Saved: 5/3/2012

Init. File Rev: 4/8/2010

Field ID	Sub ID	P Level At Start Of Plan	P Level At End Of Plan	K Level At Start Of Plan	K Level At End Of Plan	Units
2	P- 8E	17	12	190	230	ppm
2a	P- 8W	15	10	241	89	ppm
3	P -11	8	11	151	38	ppm
4	P -10	26	24	203	264	ppm
4a						ppm
5						ppm
10						ppm
13						ppm
14						ppm
15						ppm
16	P - 5	19	17	448	509	ppm
17	P - 6	21	19	499	559	ppm
18						ppm
19	P - 4	7	5	184	246	ppm
20						ppm
21						ppm
22						ppm
23						ppm
25						ppm
27	P - 3	7	2	259	298	ppm
29						ppm
30						ppm
31						ppm
33	P - 2	10		119		ppm
34						ppm
35	P - 1	8		142		ppm
36						ppm
37						ppm
38	P - 7	8	11	166	52	ppm
39						ppm
40						ppm
41	P - 9	10	8	203	265	ppm
42						ppm
43						ppm

Notes

Equations used to determine change in soil test P and K:

Change in P (ppm) = Round(NetP2O5/23)

Change in K (ppm) = Round(NetK2O/8)